

where custom does not confine the feet in coverings, the human foot retains a certain amount of its prehensile power. In the ape the foot is far superior to the hand as a prehensile organ, for not only is the hallux better developed than the pollex, but it has much greater power to oppose the other digits. Grasping and progression in animals of arboreal habits are to some extent synonymous. In the human foot the hallux is so bound up with the rest of the foot that it is practically incapable of any independent action.

References.

- [1] 'Anatomical Memoirs of John Goodsir.' Vol. I. Edited by W. Turner.
 [2] 'Journal of Anatomy and Physiology,' 1893.

EXPLANATION OF PLATE V.

- Fig. 1. A, hand, B, foot of *Ilylobates agilis*, to show the arrangement of the creases. Owing to the hook-like position of the hand, the finger-tips are out of focus.
 Fig. 2. Skin from the palmar aspect of the fingers, to show the chevron-like arrangement of the fine lines.

XXVI.—On Neotropical Mammals of the Genera *Callicebus*, *Reithrodontomys*, *Ctenomys*, *Dasybus*, and *Marmosa*. By OLDFIELD THOMAS.

Callicebus pallescens, sp. n.

Allied to *C. donacophilus*, d'Orb., with which it shares the greyish-white hands, feet, and tail, but the head and body are almost of the same pale colour, so that the whole animal is one of the palest and most uniformly coloured species of the group.

Size very small. Fur thick and soft; the longer hairs of back about 60, the shorter 35 mm. in length. General colour of body pale greyish, suffused with pinkish buff; the long hairs indistinctly ringed with whitish and black, the underfur pinkish buff for its terminal half, its basal half dark brown. Under surface and inner side of limbs rufous, rather paler than in *C. donacophilus*. Head rather yellower than back, owing to the hairs being tipped with yellow, but the difference is not conspicuous. Muzzle and lips whitish. Hands and feet greyish white. Tail also greyish white, but the hairs inconspicuously ringed with blackish.

Skull chiefly remarkable for its small size as compared with that of any other species.

Dimensions of the type (measured on skin):—

Head and body 365 mm.; tail 390; hind foot 84.

Skull: greatest length 58·5; basal length 44·5; zygomatic breadth 39; mastoid breadth 34·3; front of canine to back of m^3 18·2.

Hab. Chaco of Paraguay; type from 30 miles N. of Concepcion.

Type. Male. B.M. no. 94. 3. 6. 1. Collected October 1893 by Dr. J. Bohls. Two specimens.

In the absence of fresh specimens of *C. donacophilus* these skins from Paraguay were provisionally referred to that species. Now, however, a series of skins from Bolivia, collected by Mr. Steinbach, and nearly topotypical of d'Orbigny's species, prove conclusively that the present form needs description. Its differential characters are given above.

Grison * *furax*, sp. n.

One of the smaller species of the group, of a strongly yellowish colour.

General colour comparatively yellow or buffy, the facial streaks and the ends of the dorsal hairs buffy or buffy ochraceous, the lateral streak behind the ear more deeply ochraceous. Underfur of back brown, darkening terminally. Under surface and limbs wholly black, the belly without any light tipping. Tail-hairs brown basally, broadly tipped with buffy ochraceous; parted on the upper surface in such a way as to show a narrow, median, ochraceous-buffy line along the centre, composed entirely of short woolly hairs.

Skull with the carnassials and molars of medium proportions, the lower carnassial without a supplementary internal cusp.

Dimensions of the type (not fully adult):—

Head and body 317 mm.; tail 110; hind foot 54; ear 22.

Skull: basal length 60; greatest breadth 37; length of p^4 on outer edge 7·5; greatest diameter of m^1 6·3.

Hab. Southern Brazil. *Type* from San Francisco dos Campos, S. Minas Geraes. Altitude 1580 m.

Type. Immature male. B.M. no. 1. 6. 6. 25. Original number 622. Collected 29th March, 1901, by Alphonse Robert.

This is the common Grison or "Furão" of Southern Brazil, generally known by the name of "*Galictis vittata*";

* Oken, 1816. Better known as *Galictis*.

but it seems to be without a name properly applicable to it. The *Viverra vittata* of Schreber was based on a Surinam animal, probably one of the group with a supplementary cusp on the lower carnassial, and certainly not the present form, to which its name has been so commonly applied. Thunberg's *Ursus brasiliensis* is, again, clearly the larger type of this group, and would appear to be the same as Nehring's *Galictis crassidens*.

The Chilian *G. cuja*, Mol. (syn. *G. quiqui*, Mol.), agrees with *G. furax* in the essential characters of size and tooth-structure, but in colour is much greyer, the buffy parts of *G. furax* being replaced by white or whitish.

Grison furax luteolus, subsp. n.

Similar to true *furax*, but paler throughout.

Size and general characters as in *G. furax*, but the facial bands, the tips of the dorsal and caudal hairs, and the pale short-haired line along the top of the tail are all much paler in colour, being approximately "cream-buff" instead of ochraceous buff. Underfur dull whitish buff, giving a conspicuously paler tone to the whole animal. Hairs of belly tipped with pale buffy, the throat, chest, inguinal region, and limbs being, as usual, black. Extreme tip of tail with a small tuft of white hairs. Four pairs of mammæ, all inguinal.

Dimensions of the type (measured in flesh):—

Head and body 380 mm.; tail 170; hind foot 60; ear 22.

Skull: basal length 66·5; greatest breadth 41·3; mastoid breadth 37·5; palatal length 33; length of p^4 on outer side 7·1; greatest diameter of m^1 5·2.

Hab. Chulumani, Bolivia, 67° W., 16° S. Alt. 1800 m.

Type. Old female. B.M. no. 1. 6. 7. 27. Original number 1305. Collected 31st December, 1900, by Perry O. Simons; presented by Oldfield Thomas.

This form may be readily distinguished from the Brazilian animal by its more creamy-buff colour, and especially by its light underfur.

Reithrodontomys modestus, sp. n.

A small species of dark colour, with a short and uniformly dark tail.

Size about as in *R. saturatus*. General colour dark, nearest to Ridgway's bistre, the sides more drabby, the dorsal area rather blacker. Under surface soiled greyish (grey no. 6), not sharply defined, the bases of the hairs blackish slate; a large patch between the fore limbs drab, like the lower flanks. Ears short, uniformly blackish. Upper surface of hands

white, of feet dull white with a darker area along the outer side of the metatarsus, but this area is not sharply contrasted as is sometimes the case. Tail little longer than the head and body, well-haired, uniformly blackish above and below, the proximal inch below only inconspicuously lighter.

Skull thin and papery, without strong ridges. Palatal foramina reaching to the level of the second lamina of m^1 . Bullæ comparatively small.

Dimensions of the type (measured in the flesh):—

Head and body 59 mm.; tail 70; hind foot (s. u.) 16.5; ear 12.5.

Skull: greatest length 21; basilar length 15; length of nasals 7.8; interorbital breadth 3.5; breadth of brain-case 10.5; palatal foramina 4.6; length of upper molar series 3.3.

Hab. Jinotega, Nicaragua. Altitude 4650'.

Type. Adult male. Original number 29. Collected 20th January, 1906, by Mr. M. G. Palmer.

This *Reithrodontomys* is distinguishable by its small size, short ears, dull coloration, and short unicolor tail.

Mr. W. H. Osgood has been kind enough to compare this mouse with the specimens in the U.S. Department of Agriculture collection, and he tells me that it does not appear to resemble very closely any of the species there. "It is, perhaps, nearest to *R. australis* of Costa Rica, but is darker on the upper parts, slightly smaller, and the tail is shorter and more nearly unicolor."

Ctenomys Steinbachi, sp. n.

A fairly large species, of a uniform coppery-grey colour.

Size rather above the average in the genus. Fur straight, fine and glossy; hairs of back about 13 mm. in length. General colour a peculiar dark drabby grey-brown or coppery, quite unlike that of any known *Ctenomys*, but very similar to that of certain Geomyidæ, e. g. *Zygoeomys trichopus*, Merriam. This colour is quite uniform over the whole of the head, upper surface, and sides. Under surface creamy white, the hairs dull slaty for their basal two thirds; line of demarcation on sides fairly sharply defined. Whiskers white. Chin and a band across the lower neck in front of the arms brown, separated by a broad whitish patch running across the interarmial region and narrowing on the sides to a point about half an inch below each ear. Arms and legs light-coloured, except a narrow band running down the front of the forearms; hands and feet almost naked above, pale brown, the lateral fringes whitish. Tail very thinly clothed, its sparse hairs dull white.

Dimensions (taken on the skin) :—

Head and body 245 mm.; tail 86; hind foot, s. u. 41, c. u. 45.

Hab. Campo of Province Sara, near Santa Cruz de la Sierra, Bolivia.

Type. Adult male. Collected by Mr. J. Steinbach.

This striking species differs so widely in its coloration from every known *Ctenomys* that even in the absence of the skull I have no hesitation in describing it as new. Its colour above is extraordinarily like that of *Zygogeomys trichopus* and some other Geomyidæ, which have a similar coppery-brown tone, while all the hitherto known *Ctenomys* are of some fawn or buffy tint.

A baby specimen of *Ct. Steinbachi*, only 100 mm. in length, is of precisely the same colour as the adult.

The Local Forms of Dasypus sexcinctus, Linn.

While the extreme forms of the *Dasypus sexcinctus* group are, as shown in a former paper [#], so widely different in size that it seems impossible for them to belong to the same species, further material from intermediate localities tends to fill up the gap between them, and I am now disposed to regard them as forming but a single species with several geographical races.

These races may be briefly distinguished as follows :—

1. Size smallest; greatest skull-length 95 mm., cephalic shield in an average specimen 87×65. Colour brown. About 31-33 scales in movable bands. Back thinly haired, the pelvic shield practically naked. [Linn. *D. sexcinctus sexcinctus*, (Para.)
2. Size medium; greatest skull-length of adult 114 mm., cephalic shield about 103×77. Colour paler, more yellow. Hairs as in *sexcinctus*. (Bahia.) *D. s. setosus*, Wied.
3. Size largest; greatest skull-length attaining 126 mm., cephalic shield 123×88. Colour brown. Hairs as in *sexcinctus*. (Matto Grosso, Paraguay, and South Brazil.) *D. s. gilvipes*, Ill.
4. Size rather less than in *gilvipes*; cephalic shield 114×89 mm. Colour pale horny. Movable bands with 36 scales. Back scantily haired. Skull short and broad; molars broad and rounded. (Bolivia.) *D. s. bolivie*, subsp. n.
5. Size as in *bolivie*; cephalic shield 116×78 mm. Colour sandy. 36 scales in movable bands. Back well haired, the pelvic shield with many white hairs. Nasals rather peculiar in shape. (Tucuman.) [subsp. n. *D. s. tucumanus*,

* P. Z. S. 1903, ii. p. 242.

The new forms may be more fully described as follows:—

Dasypus sexcinctus bolivie, subsp. n.

Size rather less than in *gilvipes*. Colour pale; hairs of carapace white, of soft parts brown, nowhere really black. Hairs not more numerous than in *gilvipes*, the scales of the movable bands each with a couple of white bristles about 2–4 cm. long at their posterior end; pelvic shield almost naked, its few bristles rarely more than 1 cm. in length. Scales more numerous than in the Eastern forms, the median movable bands consisting of 36 scales. Frontal shield very broad in proportion to its length.

Skull broad and stout, with broadly and abruptly expanded zygomata. Frontal region but little convex. Nasals nearly parallel-sided, not of the peculiar shape found in *tucumanus*. Palate broader. Molars more broadly rounded, the fifth maxillary tooth 6·4 × 4·7 mm.

Dimensions of the type (measured on the flattened skin):—
Head and body 500 mm.; tail 250.

Frontal shield 114 × 89.

Skull: condylo-nasal length 119; basal length 100·5; zygomatic breadth 75; nasals, length 43·3, breadth anteriorly 13, mesially 18·3, posteriorly 20; palatal length 68; breadth of palate between fifth maxillary teeth 16·4.

Hab. Near Santa Cruz de la Sierra, Bolivia.

Type. Old male. Original number 139. Collected 17th May, 1906, by Mr. J. Steinbach; presented by Oldfield Thomas. One specimen.

The pale colour and more numerous scales ally this form to the next subspecies, while it resembles *D. s. gilvipes* in its scantily haired pelvic shield. Its very broad and rather flattened skull is peculiar to itself.

Dasypus sexcinctus tucumanus, subsp. n.

Size rather less than in the large Paraguayan *D. s. gilvipes*. Colour paler, the carapace itself sandy, its hairs white. These latter are fairly numerous both on the movable bands and on the pelvic shield, and attain from 3–5 cm. in length along the sides. Scattered hairs of underparts, arms, and legs mostly black, with a few whitish ones intermingled. Scales of carapace rather smaller than in the Eastern forms, there being 33–36 scales on each of the movable bands, the numbers on the shoulder and pelvic shields proportionally increased.

Nasals narrow in front and behind, angularly broad in the

middle, the middle part projecting outwards on each side in an angle at the premaxillo-maxillary suture. Posterior narial opening narrow, the notch sharply V-shaped. Teeth narrow throughout, the fifth maxillary tooth 6.2×4.2 mm.

Dimensions of the type (as taken by collector in the flesh):—

Head and body 410 mm.; tail 230.

Cephalic shield 116×78 .

Skull: back of frontals to end of nasals 85; greatest breadth 64; nasals, length 40, breadth, anteriorly 11, in middle 19, posteriorly 12.5; palatal length 64; breadth of palate between fifth maxillary teeth 13.3.

Hab. Tapia, Tucuman. Alt. 700 m.

Type. Adult male. B.M. no. 3. 6. 6. 16. Original number 1910. Collected 23rd September, 1902, by L. Diuelli; presented by Oldfield Thomas. Two specimens examined.

Marmosa chloe, sp. n.

A small dark-coloured species, with creamy chest and inguinal region.

Size about as in *M. fuscata*, Thos., and *M. Klagesi*, All. Fur soft and fine; hairs of back about 6 mm. in length. General colour above sepia along the dorsal area, shading off into bistre on the sides. Under surface, on throat, chest, and inguinal region, pale pinkish or creamy buff, the hairs this colour to their bases; but on the belly the slaty-based hairs encroach on each side, so as to narrow the creamy part to a mere median line. Sides of face with a large ill-defined black patch surrounding the eyes, the paler area between them less marked than in *Klagesi*. Lower cheeks cream-buff. Ears naked, dark grey. Hands pale brown, feet whitish. Tail with its short-haired part about half an inch in length, the remainder naked, uniformly pale grey.

Skull shaped very much as in *M. Klagesi*; similarly broad, with expanded zygomata and fairly well defined supra-orbital ledges. Nasals expanded posteriorly.

Dimensions of the type (measured in the flesh):—

Head and body 143 mm.; tail 170; hind foot 21; ear 19.

Skull: greatest length 33.7; basal length 30; greatest breadth 18; nasals 14×4 ; interorbital breadth 5.2; breadth of brain-case 13.5; palate, length 18.2, breadth outside m^3 10.5; combined length of three anterior molariform teeth 5.6.

Hab. Demerara River, 29 miles above Georgetown, British Guiana.

Type. Male. Original number 13. Collected 6th December, 1906, by Mr. S. B. Warren.

This species is very much darker throughout than *M. Klagesi*, to which it appears to be most nearly allied. The similarly dark *M. fuscata* has a wholly grey-mixed belly and a much more elongate skull, without trace of supraorbital beads.

BIBLIOGRAPHICAL NOTICE.

Catalogue of the Madreporarian Corals in the British Museum (Natural History). Vol. VI. By H. M. BERNARD, M.A. London: Printed by Order of the Trustees of the British Museum, 1906.

IN this volume Mr. Bernard completes the description of the genus *Porites* and gives also a descriptive list of the genus *Goniopora* supplementary to that given in vol. iv.

Besides the Corals there are probably few groups in the animal kingdom which present such formidable difficulties to the taxonomist and morphologist alike—difficulties which at the present moment appear to defy solution. Mr. Bernard, who has devoted to this group many years of patient study, has, however, certainly laid the foundations of a more exact knowledge of coral-forming animals, and has at the same time brought to light some important evidence with regard to the effect of isolation and the influence of environment on living organisms, more especially with regard to sessile forms.

The Author has, however, so it seems to us, become entangled in the toils of that seductive question, What is a species? Dissatisfied with our present definition, and unable to supply any better, he has endeavoured to compromise. We venture to think, however, that his suggestion will not be favourably received.

Recognizing a number of local forms in the several genera which he has so far examined, he proposes to regard these not as so many geographical races to be distinguished by trinomial specific names, but as indeterminate incipient species, which are to be distinguished by numerals. So that we get such names as *Goniopora Queenslandiæ quintadecima*, *Goniopora Australiæ occidentalis septima*, *Porites incertæ sedis quartadecima*!!

However, in spite of this positive drawback, Mr. Bernard has contrived to bring together a mass of most valuable information, which will prove of great value not merely to the students of corals, but also to those who are interested in the study of animal life in general.

The plates which illustrate the volume are of great beauty.